Our Reference: 200312756-1 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Yi-Hua Tsao
Serial Number:	10/771,832
Filing Date:	February 4, 2004
Examiner/Art Group Unit:	L. Tran/2853
Title:	ENHANCING COLOR SPACE OF REACTIVE INK USING HEAT

DECLARATION PURSUANT TO 37 C.F.R. § 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Yi-Hua Tsao, hereby declare the following:

1. I am the inventor of the above-identified application.

2. I am a citizen of US residing in San Diego, CA.

3. I received a bachelor degree in Chemical Engineering from National Taiwan University.

4. I received a Ph.D. degree in Chemical Engineering from University of Minnesota, Minneapolis.

5. I performed characterization of surfactants at University of Minnesota for post doc work.

6. I worked on formulation of offset printing plates and crystal growth of silver halides for photographic application at Polaroid Corporation, MA.

7. I joined Hewlett-Packard Company 10 years ago and worked on media formulation and ink formulation regarding to dyes, pigments and fixer polymers.

8. After reviewing the current office action sent on October 29, 2007, I determined that the presently cited references, Kabalnov and Leenders appeared

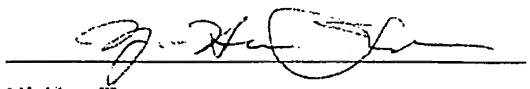
to have little or no connection with the present application. Futhermore I was struck by the examiner's statement that "the color of ink varies with the temperature, higher the temperature is darker the color (chroma)." This statement, to my knowledge, has no basis in scientific fact, if the examiner meant that there is some well known or predictable relationship between heat and color in ink. It is not demonstrated by either of the present references, Kabalnov or Leenders. Furthermore, I determined to show with comparative data that no general predictable effect would be produced when heat was applied to ink. The following data shows that, under normal experimental conditions, applying heat comparable to what is discussed in the application to colored inkjet ink produces little or no effect to the chroma. Therefore, it cannot be expected that as a matter of common knowledge, "[The] higher the temperature is [the] darker the color." Rather, the effect achieved in the present application is achieved by an interaction of various factors described and claimed in the application.

9. Various dye concentrates (2 cyans, 2 magentas and 2 yellows) are diluted at 10000 dilution with water. The solutions are stored in a 70°C oven for 24 hours. UV-vis absorbance measurements are measured on these solutions as soon as they are taken out of the oven. The same solutions are then cooled down to room temperature. UV-vis absorbance is measured on the same solutions at room temperature. The results are summarized as followed:

Dye	Absorbance at λmax, Room Temperature	Absorbance at λmax, 70C	Max Abs. 70C/Max Abs. RT
PJ485	0.62156	0.68876	1.108
AR9	1.73716	1.64292	0.946
Magenta A	0.53346	0.51698	0.969
AR289	1.33377	1.30993	0.982
DY132	0.42182	0.40532	0.961
AY23	0.44040	0.43383	0.985

Only one out of 6 dyes shows slight increase in maximum absorbance (color/chroma) while the rest of the dyes show slight decrease in maximum absorbance at elevated temperature. This data shows that the effect of 70°C heat on inkjet ink color is not to make the color darker, rather the effect appears to be somewhat negligible.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code and, that such willful false statements may jeopardize the validity of the application or any patent issued thereon.



Yi-Hua Tsao

January 24, 2008

Date